

a

**WHAT IS CLAIMED IS:**

1. A method for preparing an improved *Enterobacteriaceae* strain from a progenitor *Enterobacteriaceae* strain containing a cryptic plasmid comprising the step of eliminating the 5 cryptic plasmid from the progenitor strain thereby creating the improved strain.
2. The method of Claim 1 wherein the progenitor strain is selected from the group consisting of *Pantoea*, *Enterobacter*, *Erwinia* and *Gluconobacter*.
- 10 3. The method of Claim 2 wherein the *Pantoea* strain is *Pantoea citrea*.
4. The method of Claim 1 wherein the progenitor strain is capable of producing 2,5-DKG from a carbon source.
- 15 5. The method of Claim 1 wherein the progenitor strain is a recombinant strain that comprises nucleic acid encoding heterologous 2,5-DKGR and is capable of converting 2,5-DKG to 2-KLG.
6. The method of Claim 1 wherein the cryptic plasmid is pS having the nucleic acid 20 sequence as shown in SEQ ID NO:1 or SEQ ID NO:2.
7. The method of Claim 3 wherein *Pantoea citrea* has ATCC accession number 31940.
- 25 8. The method of Claim 1 wherein the improved stain is able to grow at higher temperatures than the progenitor strain.
9. A method for reducing the mobilization properties of plasmids residing within an *Enterobacteriaceae* strain containing a cryptic plasmid, comprising the step of eliminating 30 the cryptic plasmid from the strain.
10. The method of Claim 9 wherein the *Enterobacteriaceae* strain produces 2,5-DKG.

11. The method of Claim 10 wherein the *Enterobacteriaceae* strain is a recombinant strain that comprises nucleic acid encoding heterologous 2,5-DKGR and is able to convert 2,5-DKG to 2-KLG.
- 5           12. The method of Claim 9 wherein the *Enterobacteriaceae* strain is selected from the group consisting of *Pantoea*, *Enterobacter*, *Erwinia* and *Gluconobacter*.
13. The method of Claim 12 wherein the *Pantoea* strain is *Pantoea citrea*.
- 10          14. The method of Claim 9 wherein the cryptic plasmid is pS having the nucleic acid sequence as shown in SEQ ID NO:1 or SEQ ID NO:2.
- 15          15. The method of Claim 13 wherein *Pantoea citrea* has the ATCC accession number 31940.
16. An improved *Enterobacteriaceae* strain made by the method of Claim 1.
17. The improved *Enterobacteriaceae* strain of Claim 16 that is *Pantoea*.
- 20          18. An isolated nucleic acid having the sequence as shown in SEQ ID NO:1.
19. An isolated nucleic acid having the sequence as shown in SEQ ID NO :2.
20. An isolated amino acid having the sequence as shown in SEQ ID NO:3.
- 25